

Sevelamer Treatment Strategy in Peritoneal Dialysis Patients: Conventional Dose Does Not Make Best Use of Resources

KM Chow, CC Szeto, BC Kwan, CB Leung, PKT Li
 Department of Medicine and Therapeutics, Prince of Wales Hospital,
 The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China.

Background: Given the significant incremental expense in the use of the conventional sevelamer dose, it might be possible to benefit two to four times as many individuals by prescribing a lower sevelamer dose. **Methods:** To determine the optimum strategy of prescribing sevelamer for the treatment of secondary hyperparathyroidism in peritoneal dialysis patients, we conducted a 6-month open-label randomized study comparing the treat-to-goal strategy (recommended, 4.0 g daily sevelamer dose) with a lower sevelamer dose (1.2 g daily). **Results:** A total of 27 peritoneal dialysis patients with serum calcium-phosphorus product above 55 mg²/dL² (or 4.6 mmol²/L²) were recruited and completed the study. Nine were randomized to the treat-to-goal group (4.0 g sevelamer daily) and 18 to the low-dose treatment group (1.2 g daily). Overall, significantly lower calcium-phosphorus product and serum phosphorus level at 6 months were achieved by the treat-to-goal regimen. The proportions of patients who attained the Kidney Disease Outcomes Quality Initiative (K/DOQI) treatment target, however, did not differ significantly between the treat-to-goal and low-dose treatment groups (66.7 ± 30.8% vs 33.3% ± 21.8%, *p* = 0.10). The numbers needed to treat in order to benefit one patient who can attain the K/DOQI recommendation are 1.5 patients (95% CI, 1.0–2.8) in the treat-to-goal group and three patients (95% CI, 1.8–8.7) in the low-dose treatment group. Treat-to-goal dosing incurred mean drug acquisition costs of US\$1,681 in order to allow one patient to attain the K/DOQI target, as compared to US\$1,009 with the low-dose (1.2 g) treatment strategy. In other words, an extra 66.7% of subjects would be able to attain the treatment recommendation within the same budget if the daily dose of sevelamer used was 1.2 g daily instead of the usual 4.0 g daily. Compared to a 1.2 g daily dose of sevelamer, 4.0 g daily had an incremental cost-effectiveness ratio (ICER) of US\$2,353 per additional patient achieving the K/DOQI target. A multivariate analysis showed that only the calcium-phosphorus product after 1 month of sevelamer treatment was predictive of treatment response. **Conclusion:** These findings suggest that low-dose sevelamer treatment might be a cost-effective approach, which is “good for many rather than best for a few”.

Spironolactone is not Effective for the Treatment of Hypokalemia in Peritoneal Dialysis Patients

JSS Kwok, KM Chow, BCH Kwan, PKT Li, CC Szeto
 Department of Medicine and Therapeutics, Prince of Wales Hospital,
 The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China.

Background: Hypokalemia is a common problem in patients on continuous ambulatory peritoneal dialysis (CAPD). We evaluated the efficacy and safety of spironolactone for the treatment of hypokalemia in CAPD patients. **Methods:** We reviewed the clinical response of 12 consecutive hypokalemic CAPD patients treated with spironolactone in our center. **Results:** All patients received spironolactone 25 mg daily. There was no significant change in the serum potassium level after administration of spironolactone (3.30 ± 0.26 to 3.46 ± 0.38 mmol/L, *p* = 0.28), although regular oral potassium supplement was required in only three patients. There was also no significant change in arterial blood pressure or urine output after spironolactone treatment. Spironolactone was well tolerated and no incident of hyperkalemia was recorded. **Conclusion:** Spironolactone is not effective in the treatment of hypokalemia in stable CAPD patients, but the agent is well tolerated. Future studies are warranted to determine the therapeutic role of spironolactone in CAPD patients with concomitant congestive heart failure or cardiovascular diseases.

Prevalence of Psychological Problems in Chinese Peritoneal Dialysis Patients

KY Chung, CC Szeto, KM Chow, MC Law, CB Leung, PKT Li
 Department of Medicine and Therapeutics, Prince of Wales Hospital,
 The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China.

Background: Psychological problems are common among dialysis patients. We studied the prevalence of psychological problems in a cohort of Chinese peritoneal dialysis (PD) patients. **Methods:** We studied 167 unselected adult PD patients from a single dialysis unit. Psychological status and social support were assessed by the Hospital Anxiety and Depression Scale (HADS) and the Medical Outcomes Study Social Support Survey, Chinese Version (MOS-SSS-C) questionnaires, respectively. **Results:** With the HADS questionnaire, 33 (20.0%) and 76 (45.5%) patients had at least mild anxiety and depression symptoms, respectively. With the MOS-SSS-C questionnaire, 13.8% of patients had borderline social support, and 4.2% had poor social support. There was a close internal correlation between the HADS and MOS-SSS-C scores. A higher HADS score was noted in male patients (8.19 ± 6.80, *p* = 0.038), elderly patients (*r* = 0.224, *p* = 0.011), patients partly dependent with regard to their daily activities (8.35 ± 4.63 vs 7.08 ± 4.12, *p* = 0.08), those with no full-time job (7.47 ± 4.31 vs 4.45 ± 2.16, *p* = 0.003), those not on transplant waiting lists (7.90 ± 4.33 vs 5.71 ± 3.82, *p* = 0.008), and those with poor drug compliance (7.80 ± 4.44 vs 4.25 ± 4.17, *p* = 0.016). **Conclusion:** Psychological symptoms are highly prevalent in Chinese PD patients. Depressive symptoms are common in elderly male patients without full-time jobs and patients not on transplant waiting lists. On the other hand, anxiety symptoms and poor social support are associated with poor compliance to various aspects of treatment.

Hemodialysis Twice Per Week – Single Pool Kt/V, Urea Reduction Ratio, Blood-based Normalized Protein Catabolic Rate and Their Correlation

HL Tang, KF Yim, CMK Tang, A Cheuk, KH Chu, W Lee, KS Fung,
 HWH Chan, KL Tong
 Division of Nephrology, Department of Medicine and Geriatrics,
 Princess Margaret Hospital, Lai Chi Kok, Hong Kong SAR, China.

Background: In Hong Kong, the majority of hemodialysis (HD) patients dialyze two times a week. We examined the single pool Kt/V (spKt/V), urea reduction ratio (URR) and blood-based normalized protein catabolic rate (nPCR), and their correlation in this particular group of patients. **Methods:** This was a retrospective study of 43 anuric patients who were receiving HD twice weekly. The data from one dialysis session was retrieved from the computer system. For all patients, the length of the HD session was 5 hours. Blood-based nPCR was calculated from the equation: nPCR = Co/[48 + 5.14(Kt/V) + 79/(Kt/V)] + 0.168, using the pre- and post-dialysis blood urea levels of a single beginning-of-week session of HD. spKt/V was calculated by the Daugirdas second generation equation using the 15 seconds post-dialysis blood urea level (Stop Pump Technique). **Results:** Excellent correlation existed between spKt/V and URR, whereas weak correlation was shown between spKt/V and nPCR, and between URR and nPCR.

	<i>r</i>	<i>p</i>
spKt/V vs URR	0.972	< 0.001
spKt/V vs nPCR	0.099	0.528
URR vs nPCR	0.076	0.627

	Mean ± SD
spKt/V	2.0 ± 0.3
URR (%)	79 ± 5
nPCR (g/kg/day)	1.1 ± 0.3

Conclusion: In our patients receiving HD twice weekly, the mean spKt/V, URR, and nPCR were 2.0, 79% and 1.1 g/kg/day, respectively. spKt/V and URR correlated well, but spKt/V and URR correlated poorly with nPCR determined from blood-based parameters.